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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/110,694 07/07/98 MILLS

R 9113-19-C15

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IM22/1208

EXAMINER

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2000 M STREET N.W.
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WASHINGTON DC 20036-3307

KALAFUT, S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED:

12/08/99

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/110694

Applicant(s)

MILLER

Examiner

KALAFUT

Group Art Unit

1745

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-4 is/are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-4 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 2, 5
- ☒ Notice of Reference(s) Cited, PTO-892
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

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1. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "less than thermal energies" is of indefinite scope. These claims are considered incomplete because they recite a product having "one other element" than hydrogen, but do not recite that the reaction vessel contains any source of this element. Since the product includes this element, how it is produced by the reaction of hydrogen only with electrons, is confusing. The recited reaction step in claim 1, lines 18-20 also does not recite the other element.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Mills

(WO 92/10838).

Mills discloses a reactor vessel (100) which includes electrodes (104, 106) which are a source of electrons. Hydrogen atoms are also present (page 11, lines 8-14), which undergo a shrinkage reaction. Since the term "source of increased binding energy hydrogen atoms" would encompass not only these atoms themselves, but ordinary hydrogen capable of being converted into such atoms, the hydrogen disclosed by Mills would meet the requirement for such a "source". The recitation in claim 2 is to the intended product, while the claims are drawn to the apparatus

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for conducting a reaction, and is thus not accorded patentable weight. Thus, to the extent that they are understood, these claims would be met by Mills.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills (WO '838) in view of Mills *et al.* (WO 96/42085).

This claim differs from Mills by reciting particular types of sources for the increased binding energy hydrogen atoms. Mills *et al.* teach that such atoms, as well as normal hydrogen, may be produced by electrolytic cells, gas cells and gas discharge cells. See page 89, lines 20-26. Since the hydrogen atoms of Mills need to be provided to his apparatus, it would be obvious to use the various sources of Mills *et al.*, to meet this requirement.

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cornish (US 4,702,894) discloses a method of hydrogen production by heating a

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metal under water. Angelo (US 4,808,286) discloses a device for inducing and accelerating hydrogen dissociation.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Kalafut whose telephone number is (703) 308-0433. If attempts to reach the examiner are unsuccessful, his supervisor, Maria Nuzzolillo, may be reached at (703) 305-3776. The Technology Center receptionist may be reached at (703) 308-0661.



STEPHEN KALAFUT
PRIMARY EXAMINER
GROUP 1706

sjk

December 2, 1999